

Research Question: Predicting the Return of the Atlantic Sturgeon

The Problem: Populations of Atlantic Sturgeon have been in decline over the past century. Estuaries are important for the survival of this species because sturgeon use them to spawn and have their young. The location and timing of their spawning migrations are therefore of primary importance.



Photo (NOAA): the endangered Atlantic Sturgeon

Your mission: Your mission is protect the spawning populations of this species. To do this, you will need to predict when Atlantic Sturgeon will migrate into the freshwater reaches of an estuary to spawn.

Which estuary?

- To get started, use the online *Fact Sheet* to select an estuary where Atlantic Sturgeon are found. Record the estuary name and location here: _____

Form Your Question: Write your research question in the space below.

Example: *In 2018, when will Atlantic Sturgeon most likely begin their spawning migrations into the Delaware Bay estuary?*

Get the data: To answer the question, determine what data you will need.

- Locate and select your estuary from the interactive map in [Level 4](#).
- A list of monitoring stations should appear. Review the list. Choose any station(s) that collects 'water quality' data (avoid 'meteorological' and 'nutrient' stations)
- Click the 'Graph Data' icon. Select the parameters and dates you need to answer your question. Save or print your graphs, if desired.
- Use the table below to keep a record of the data you select, so you can refer to it later. The first row of data has been filled in, as an example.

Location (station name)	Water Quality Parameter	Range of Dates	Notes
<i>Blackbird Landing</i>	<i>Water Temperature</i>	<i>April 1-30, 2017</i>	<i>Temperatures were between 13-17°C throughout most of the month</i>

Analyze the data: Use your data table and graphs to answer the following questions:

1. Can you identify a time period when the water temperature is within the range for the sturgeon to return?
2. What is the range of the other water quality parameters during that time period?
3. Can you identify a time period when all the conditions look right for the sturgeon to return to spawn?
4. Do the same conditions occur around the same time, year after year?